DETAILED ACTION

1. Applicant's amendment filed on November 16, 2009 is acknowledged. Claims 5, 9 and 23-27 have been canceled. Claims 28 and 29 are newly added. Claim 1 has been amended. Support for amendment was found in Specification as indicated by Applicant.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Merkel on March 4, 2010 (see attached Interview Summary).

The listing of Claims below is replacement for all prior claims:

1. (Currently amended) A method of manufacture of a soluble, microbiologically active and stable acrolein polymer comprising the following steps in sequence: (a) polymerising acrolein in the presence of base to form a polymer of acrolein; (b) dissolving the polymer of acrolein in an alcohol selected from monoalcohols and polyols optionally with addition of water to form an alcohol solution of the polymer of acrolein, and providing a pH of no more than 7, wherein the polymer of acrolein is not subject to heating in air ~~at a temperature of at least 60ºC~~ before dissolving in alcohol; (c) heating the alcohol solution of the polymer of acrolein of pH of no more than 7, to a temperature in the range of from 40 to 105°C, to react the polymer of acrolein with the alcohol; and (d) mixing base with the polymer of acrolein, wherein the polymer product of said method ~~of acrolein~~ does not precipitate when further diluted by water by a factor of one in ten parts by volume.

2. (Previously Presented) A method according to claim 1, wherein the polymer of acrolein comprises a co-monomer in an amount of up to 10% by weight of the total monomer composition.

3. (Previously Presented) A method according to claim 1, wherein the polymer of acrolein is a homopolymer.

4. (Previously Presented) A method according to claim 1, wherein the polymer of acrolein is collected from the polymerisation reaction as a precipitate and dissolved in the alcohol.

5. (Cancelled)

6. (Previously Presented) A method according to claim 1, wherein the polymer of acrolein is isolated as a solid from the step of polymerisation in the presence of base.

7. (Currently Amended) A method according to claim 1, wherein said ~~the polymer of acrolein is dissolved in the alcohol by~~ heating step is carried out at ~~the acrolein polymer in the alcohol to~~ a temperature in the range of from 40 to ~~105°C~~ 90°C.

8. (Previously Presented) A method according to claim 1, wherein alcohol is a polyalkylene glycol.

9. (Cancelled)

10. (Currently Amended) A method according to claim 1, wherein said heating step is carried out ~~the polymer of acrolein is heated in the alcohol~~ at a temperature in the range from 50 to 105°C, for a period in the range of from fifteen minutes to five hours.

11. (Previously Presented) A method according to claim 1, wherein the polymer of acrolein dissolved in the alcohol in step (b) has an acid content of less than 1 mole of carboxyl groups per kilogram of polymer.

12. (Previously Presented) A method according to claim 11, wherein said acid content is less than 0.5 mole carboxyl groups per kilogram of polymer.

13. (Currently amended) A method according to claim 1, wherein the base is added to the alcohol solution following said heating step ~~the alcohol solution~~.

14. (Previously Presented) A method according to claim 13, wherein the pH of the resulting solution is in the range of from 7 to 9.5.

15. (Previously Presented) A method according to claim 13, wherein the pH of the resulting solution is in the range of from 7.5 to 8.5.

16. (Previously Presented) A method according to claim 1, wherein the base comprises a compound selected from the group consisting of alkali metal carbonate, alkali metal hydroxide, and mixtures thereof.

17. (Previously Presented) A method according to claim 16, wherein the base comprises sodium carbonate and/or potassium carbonate.

18. (Previously Presented) A method according to claim 1, wherein the polymer of acrolein used in the step of heating in the alcohol is in a concentration in the alcohol of from 0.5 to 50% by weight.

19. (Previously Presented) A method according to claim 18, wherein the concentration is from 0.5 to 40% by weight.

20. (Previously Presented) A method according to claim 1, wherein the alcohol is polyethylene glycol and is present at a concentration in the range of from 5 to 90% by weight.

21. (Previously Presented) A method according to claim 1, wherein the alcohol is a polyethylene glycol of molecular weight in the range of from 200 to 20,000.

22-29. (Cancelled)

3. Support for negative limitation of amended Claim 1 as " wherein the polymer of acrolein is not subject to heating in air" can be found in original Specification at page 1, lines 13-17, page 2, lines 13-17 and page 3,lines 20 -22. Support for limitations related to heating of alcohol solution at specified temperature range (see amended Claims 1 and 7) can be found in original Claim 7 and Specification at page 3, line 29. Therefore, no New Matter has been introduced by this Amendment.

Reasons for Allowance

3. Claimed subject matter of independent Claim 1 directed to Method of

of manufacture of a soluble, microbiologically active and stable acrolein polymer comprising the following steps in sequence: (a) polymerising acrolein in the presence of base to form a polymer of acrolein; (b) dissolving the polymer of acrolein in an alcohol selected from monoalcohols and polyols optionally with addition of water to form an alcohol solution of the polymer of acrolein, and providing a pH of no more than 7, wherein the polymer of acrolein **is not subject to heating in air before dissolving in alcohol;** (c) heating the alcohol solution of the polymer of acrolein of pH of no more than 7, to a temperature in the range of from 40 to 105°C, to react the polymer of acrolein with the alcohol; and (d) mixing base with the polymer of acrolein, wherein the polymer product of said method does not precipitate when further diluted by water by a factor of one in ten parts by volume.

Note that the closest prior art of record, Werle et al. (AU 11686/95) and Werle et al. (AU 711548) do require specific step of oxidizing acrolein polymer in the air at elevated temperature of at least 60 ^{0}C in order to obtained soluble polymer.

Thus, subject matter of Claim 1 and dependent claims deemed to be novel and unobvious over prior art of Record.

4. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GENNADIY MESH whose telephone number is (571)272-2901. The examiner can normally be reached on 10 a.m - 6 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Milton Cano can be reached on (571) 272 1398. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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